

CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- At time of the Action: Claims 1-39.
- After this Response: Claims 5, 11, 14, 20, and 28-39.

Canceled or Withdrawn claims: 1-4, 6-10, 12-13, 15-19, and 21-27.

Amended claims: 5, 11, 14, and 20.

New claims: none.

CLAIMS:

Claims 1-4 are CANCELLED.

5. (CURRENTLY AMENDED) An image encoding method for compressing image data representing plural pixels of plural nonzero image tones, comprising:

designating a current pixel to be encoded;

defining a context region that includes multiple context pixels that are adjacent the current pixel, each of the context pixels having an image tone;

identifying a pattern of unique image tones among the context pixels in the context region;

assigning a state to the context region according to the pattern of unique image tones therein; and

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Atty Docket No.: MS1-2047us
RESPONSE TO NON-FINAL OFFICE ACTION

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1 adaptive entropy coding the current pixel with reference to the state of the
2 context region; and

3 identifying a non-local trend within the context pixels in which
4 identification of each non-local trend references a trend context pixel in addition to
5 the context pixels in which the pattern of unique tones are identified.

6
7 Claims 6-10 are CANCELLED.

8
9 11. (CURRENTLY AMENDED) ~~The method of claim 10 further~~
10 ~~including~~ An image encoding method for compressing image data representing
11 plural pixels of plural nonzero image tones, comprising:

12 designating a current pixel to be encoded;

13 defining a context region that includes multiple context pixels that are
14 adjacent the current pixel, each of the context pixels having an image tone;

15 identifying a pattern of unique image tones among the context pixels in the
16 context region;

17 assigning a state to the context region according to the pattern of unique
18 image tones therein, wherein the pattern of unique image tones is identified with
19 reference only to context pixels that are immediately adjacent the current pixel;

20 adaptive entropy coding the current pixel with reference to the state of the
21 context region; and

22 identifying a non-local trend within the context pixels, identification of
23 each non-local trend referencing a trend context pixel in addition to the context
24 pixels in which the pattern of unique tones are identified.

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Serial No.: 09/577,544

Atty Docket No.: MS1-2047us

RESPONSE TO NON-FINAL OFFICE ACTION

3

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1 Claims 12-13 are CANCELLED.

2
3 14. (CURRENTLY AMENDED) In a computer readable medium, image
4 encoding software for compressing image data representing plural pixels of plural
5 nonzero image tones, comprising:

6 software for designating a current pixel to be encoded;

7 software for defining a context region that includes multiple context pixels
8 that are adjacent the current pixel, each of the context pixels having an image tone;

9 software for identifying a pattern of unique image tones among the context
10 pixels in the context region;

11 software for assigning a state to the context region according to the pattern
12 of unique image tones therein; and

13 software for adaptive entropy coding the current pixel with reference to the
14 state of the context region; and

15 software for identifying a non-local trend within the context pixels in which
16 identification of each non-local trend references a trend context pixel in addition to
17 the context pixels in which the pattern of unique tones are identified.

18
19 Claims 15-19 are CANCELLED.

20
21 20. (CURRENTLY AMENDED) ~~The medium of claim 19 further~~
22 ~~including~~ In a computer readable medium, image encoding software for
23 compressing image data representing plural pixels of plural nonzero image tones,
24 comprising:

25 software for designating a current pixel to be encoded;

Serial No.: 09/577,544

Atty Docket No.: MS1-2047us

RESPONSE TO NON-FINAL OFFICE ACTION

4

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1 software for defining a context region that includes multiple context pixels
2 that are adjacent the current pixel, each of the context pixels having an image tone;

3 software for identifying a pattern of unique image tones among the context
4 pixels in the context region, wherein the pattern of unique image tones is identified
5 with reference only to context pixels that are immediately adjacent the current
6 pixel;

7 software for assigning a state to the context region according to the pattern
8 of unique image tones therein;

9 software for adaptive entropy coding the current pixel with reference to the
10 state of the context region; and

11 software for identifying a non-local trend within the context pixels,
12 identification of each non-local trend referencing a trend context pixel in addition
13 to the context pixels in which the pattern of unique tones are identified.

14
15 Claims 21-27 are CANCELLED.

16
17 28. (ORIGINAL) An image encoding method for compressing image
18 data representing plural pixels of plural nonzero image tones, comprising:

19 designating a current pixel to be encoded;

20 identifying within a basic context region that includes multiple context
21 pixels that are adjacent the current pixel, each of the context pixels having an
22 image tone, the pattern of unique image tones among the context pixels in the
23 context region;

24 identifying within an extended context region that includes the basic
25 context region a non-local trend within the context pixels;

Serial No.: 09/577,544

Atty Docket No.: MS1-2047us

RESPONSE TO NON-FINAL OFFICE ACTION

5

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1 assigning a state according to identifications made within the basic and
2 extended context regions; and

3 adaptive entropy coding the current pixel with reference to the state of the
4 context region.

5
6 29. (ORIGINAL) The method of claim 28 in which identifying a non-
7 local trend includes identifying non-local trends that are in horizontal or vertical
8 alignment with the current pixel.

9
10 30. (ORIGINAL) The method of claim 28 in which the adaptive entropy
11 coding includes arithmetic coding.

12
13 31. (ORIGINAL) The method of claim 28 in which the pattern of unique
14 image tones is identified with reference only to context pixels that are immediately
15 adjacent the current pixel.

16
17 32. (ORIGINAL) The method of claim 28 in which the pattern of tones
18 is identified with reference to only four context pixels.

19
20 33. (ORIGINAL) The method of claim 28 in which the adaptive entropy
21 coding includes arithmetic coding in which the current pixel may be encoded
22 according to a previously encoded pixel having the same tone or as a not-in-
23 context element corresponding to a tone in a color cache representing an ordered
24 list of most recent not-in-context values.

1 34. (ORIGINAL) In a computer readable medium, image encoding
2 software for compressing image data representing plural pixels of plural nonzero
3 image tones, comprising:

4 software for designating a current pixel to be encoded;

5 software for identifying within a basic context region that includes multiple
6 context pixels that are adjacent the current pixel, each of the context pixels having
7 an image tone, a pattern of unique image tones among the context pixels in the
8 context region;

9 software for identifying within an extended context region that includes the
10 basic context region a non-local trend within the context pixels;

11 software for assigning a state according to identifications made within the
12 basic and extended context regions; and

13 software for adaptive entropy coding the current pixel with reference to the
14 state of the context region.

15
16 35. (ORIGINAL) The medium of claim 34 in which the software for
17 identifying a non-local trend includes software for identifying non-local trends that
18 are in horizontal or vertical alignment with the current pixel.

19
20 36. (ORIGINAL) The medium of claim 34 in which the software for
21 adaptive entropy coding includes software for arithmetic coding.

22
23 37. (ORIGINAL) The medium of claim 34 in which the pattern of
24 unique image tones is identified with reference only to context pixels that are
25 immediately adjacent the current pixel.

1 38. (ORIGINAL) The medium of claim 34 in which the pattern of tones
2 is identified with reference to only four context pixels.

3
4 39. (ORIGINAL) The medium of claim 34 in which the software for
5 adaptive entropy coding includes software for arithmetic coding in which the
6 current pixel may be encoded according to a previously encoded pixel having the
7 same tone or as a not-in-context element corresponding to a tone in a color cache
8 representing an ordered list of most recent not-in-context values.

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8

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